STUDIES IN APPLIED MATHEMATICS

Volume LXXXVI 1992

CONTENTS

ON THE FOUNDATION OF COMBINATORIAL THEORY.
X. A CATEGORICAL SETTING FOR SYMMETRIC FUNCTIONS
Flavio Bonetti, Gian-Carlo Rota, Domenico Senato,
and Antonietta M. Venezia 1

BIFURCATION OF SOLUTIONS FOR AN INVERSE PROBLEM
IN POTENTIAL THEORY
B. Chen, M. C. Jorge, and A. A. Minzoni 31

THE NONLINEAR INSTABILITY CHARACTERISTICS
OF WAVES IN FREE SHEAR LAYERS
D. J. Benney and Y. F. Zhou 53

A SIMPLE ALGORITHM FOR THE EVALUATION OF A CLASS
OF GENERALIZED HYPERGEOMETRIC SERIES
H. M. Srivastava 79

THE PAINLEVÉ-KOWALEVSKI AND POLY-PAINLEVÉ
TESTS FOR INTEGRABILITY
Martin D. Kruskal and Peter A. Clarkson 87

INTERNAL SOLITARY WAVES
P. D. Weidman and M. G. Velarde 167

ITERATES OF NUMBER THEORETIC FUNCTIONS
WITH PERIODIC RATIONAL COEFFICIENTS
(GENERALIZATION OF THE $3x+1$ PROBLEM)
G. Venturini 185

INVERSE SPECTRAL TRANSFORM FOR THE MODIFIED
KADOMTSEV-PETVIASHVILI EQUATION
B. G. Konopelchenko and V. G. Dubrovsky 219

INSTABILITY OF THREE DIMENSIONAL WAVES
IN TWO LAYERED FLOWS
Y. F. Zhou and D. J. Benney 269

INTERACTION OF ELASTIC WAVES
John K. Hunter 281

THE PAINLEVÉ CONNECTION PROBLEM:
AN ASYMPTOTIC APPROACH. I
Nalini Joshi and Martin D. Kruskal 315

STUDIES IN APPLIED MATHEMATICS

Volume LXXXVII 1992

CONTENTS

ON THE SURFACE WAVES IN A SHALLOW CHANNEL WITH AN UNEVEN BOTTOM
Eugene S. Benilov 1

VECTOR EIGENFUNCTION EXPANSIONS FOR PLANE CHANNEL FLOWS
Dan S. Henningson and Peter J. Schmid 15

ASYMPTOTIC BEHAVIOR OF SOLUTIONS TO NONLINEAR EQUATIONS WITH DISSIPATION FOR LARGE x AND t
P. I. Naumkin 45

INITIAL ALGEBRAIC GROWTH OF SMALL ANGULAR DEPENDENT DISTURBANCES IN PIPE POISEUILLE FLOW
Lars Bergström 61

ON POLYNOMIALS WITH LOW PEAK SIGNAL TO POWER (L_∞ TO L_2 NORM) RATIOS AND THEOREMS OF KASHIN AND SPENCER
D. J. Hajela 81

ELIMINATING INDETERMINACY IN SINGULARLY PERTURBED BOUNDARY VALUE PROBLEMS WITH TRANSLATION INVARIANT POTENTIALS
Michael J. Ward 95

LOW-FREQUENCY MULTIDIMENSIONAL INSTABILITIES FOR REACTING SHOCK WAVES
A. Majda and V. Roytburd 135

HELE SHAW FLOWS WITH TIME-DEPENDENT FREE BOUNDARIES INVOLVING INJECTION THROUGH SLITS
S. Richardson 175

ON THE GENERALIZATIONS OF A THEOREM OF BEPPO LEVI
S. E. Trione 195

EXACT SOLUTIONS OF LINEAR PARTIAL DIFFERENTIAL EQUATIONS WITH VARIABLE COEFFICIENTS
P. L. Sachdev and B. Mayil Vaganan 213

PARTICLES IN A SINGULAR ASYMPTOTIC LIMIT OF A CLASSICAL FIELD THEORY
David M. Stuart 239

ON THE STRONG L^1 TREND TO EQUILIBRIUM FOR THE BOLTZMANN EQUATION
Leif Arkeryd 283

ASYMPTOTIC EXPANSIONS FOR SECOND-ORDER LINEAR DIFFERENCE EQUATIONS, II
R. Wong and H. Li 289

ON THE TEMPORAL AND THE SPATIAL KELVIN-HELMHOLTZ INSTABILITY OF A HYPERSONIC JET CONFINED BY A LONGITUDINAL MAGNETIC FIELD
Z. Y. Yue and G. Winnewisser 325

SOME GENERATING FUNCTIONS FOR THE GENERALIZED BESSEL POLYNOMIALS
Ming-Po Chen, Chia-Chin Feng, and H. M. Srivastava 351

AUTHOR INDEX TO VOLUMES 86 AND 87 367

TITLE INDEX TO VOLUMES 86 AND 87 369